REMARKS

Status of the Claims

Claims 1, 3-6, 9, 21, 22 and 25 to 27 were pending. By amendment herein, claim 1 has been amended to incorporate the limitations of previous claims 3 and 4, which have been canceled without prejudice or disclaimer. Claim 1 has also been amended to further specify the nature of the intracellular domain as a phosphatase or phosphorylase (page 15, line 27 and Example 2). In addition, the dependencies of claims 5, 6 and 27 have been corrected. Accordingly, claims 1, 5, 6, 21, 22 and 25 to 27 are pending as shown above.

Rejections Withdrawn

The previous rejection under 35 U.S.C. § 103(a) has been withdrawn. (Office Action, page 2).

35 U.S.C. § 112, 1st paragraph, written description

Claims 1, 3-9, 21-22 and 25-27 were again rejected under 35 U.S.C. § 112, 1st paragraph as allegedly not adequately described by the as-filed specification. (Final Office Action, pages 2-6). In particular, it was alleged that the claims encompass "limitless combination of transmembrane fusion proteins" and that only the exemplified biodetectors are described. *See,* Final Office Action, page 8, also stating that "the nucleic acid itself is required."

To the extent that the foregoing amendments clarifying that the responsive element comprises a sequence encoding a light generating protein and that the intracellular enzymatic domain is one of the recited protein modifying enzyme do not obviate the rejections, Applicants traverse.

The written description requirement is satisfied when the as-filed specification, in light of the knowledge possessed by the skilled artisan at the time of filing, reasonably conveys that Applicants were in possession of the claimed subject matter, in this case a biodetector including an extracellular antibody domain, an intracellular protein-modifying enzymatic domain as recited, a transducer and a reporter gene. *See, e.g., In re Lukach*, 169 USPQ 795, 796 (CCPA 1971); *In re Lange*, 209 USPQ 288 (CCPA 1981).

In the instant case there are not a limitless combination of transmembrane fusion proteins that may be used in the claimed biodetectors. Rather, the claims require that the extracellular domain be an antibody and the intracellular domain be a phosphorylase or phosphatase. Transmembrane fusions of antibodies and phosphatase or phosphorylases were known in the art and clearly described in the as-filed specification. *See,* Example 2 of as-filed specification stating, in part:

> Antibody fragment-phosphatase fusions have been generated with retention of both ligand binding specificity and phosphatase activity [citation omitted]. ...

Similarly, the as-filed specification clearly details the known chemical structure of light-generating proteins. *See, e.g.,* pages 16-19 of the as-filed specification and references cited therein.

Thus, the Examiner's assertion that "the skilled artisan cannot envision the detailed chemical structure of the encompassed polynucleotides and/or proteins" is not correct. In fact, at the time of filing the detailed chemical structures of both antibody transmembrane fusions and of a variety of sequences encoding light-generating proteins were well known. *See,* page 15-16 and Example 2 of the specification, including references cited therein. Thus, the state of the art regarding sequences encoding light-generating proteins and transmembrane fusion proteins as claimed was clearly such that the skilled artisan could readily envisage this aspect of the claimed biodetectors.

In sum, because the skilled artisan would clearly recognize that Applicants were in possession of the claimed biodetectors, withdrawal of the rejection is in order.

CONCLUSION

Applicants respectfully submit that the claims in condition for allowance.

If the Examiner notes any further matters that the Examiner believes may be expedited by a telephone interview, the Examiner is requested to contact the undersigned.

Respectfully submitted,

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